

REMARKS

This Reply is responsive to an Office Action in this case mailed on September 29, 2004. By this reply, claims 22-25, 27-28, 31, 33, 36-37, 41-42, and 46-47 are amended. Claims 48-49 are cancelled and claims 50-59 are added. Claims 22-47 and 50-59 are pending in the above-captioned application. Prompt consideration of this Reply and allowance of the application are earnestly requested.

Initially, Applicant thanks Examiner Kim for indicating that claims 25-30, 32, 36-40, and 47-49 contain allowable subject matter.

In the Office Action, the Examiner rejected claims 22, 23, and 43 under 35 U.S.C. § 102(b) as being anticipated by an English translated copy of WO 98/50091; rejected claims 24, 31, 33 (independently), 35, 41 (independently), 42, 44, 45 (independently) and 46 under 35 U.S.C. § 103(a) as being unpatentable over WO 98/50091 in view of U.S. Patent No. 5,762,805 to Truitt; rejected claim 34 under 35 U.S.C. § 103(a) as being unpatentable over WO 98/50091 in view of Truitt, and further in view of WO 00/09182; and objected to claims 25-30, 32, 36-40, and 47-49¹.

Applicant gratefully acknowledges the Examiner's indication of allowable subject matter in claims 25-30, 32, 36-40, and 47-49.

¹ During a telephone conversation with the Examiner on December 21, 2004, the Examiner indicated that the form paragraph relating to rejections under 35 U.S.C. § 112, 2nd paragraph was inadvertently included at page 4 of the Office Action. The Examiner stated that the following paragraph should replace paragraph 6 in the Office Action: "Claims 25-30, 32, 36-40, and 47-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims."

§ 102(b) Rejection

Claims 22-23 and 43 were rejected under 35 U.S.C. § 102(b) as being anticipated by English translated copy of WO 98/50091 (hereinafter “WO translation”). Applicant respectfully traverses this rejection.

First, independent claim 22, as amended, recites an infusion control device for controlling infusion of a liquid comprising “a control unit configured to control the distribution of an infusion flow rate...based on a monitoring of at least one quantity correlated with the operating conditions of the filter” (emphasis added). The Examiner contends that the WO translation teaches a control means “based on measurements from pressure gauges (2'-3'-4')...to steer flow applied by pumps...wherein...a flow divider regulat[es] the proportion between the flow of replacement [infusion] fluid injected into the blood circulation upstream from the filtration means (8) and the flow of replacement fluid injected into the blood circulation downstream from the filtration means.” (Office Action at 2). The WO translation does not teach controlling the distribution of infusion flow rate in arterial and venous pipes from at least one parameter correlated with the operating conditions of the filter.

Rather, in a first embodiment, the WO translation discloses an infusion pump 2 controlled by means of rotation encoders or other flow gauges 2', 3', 4' in order to steer the infusion flow applied by the pump 2 at a preset value and a flow divider that regulates the proportion between a pre-infusion rate and a post-infusion rate. (WO translation at 11-12). The rotation encoder disclosed in the WO translation, however, cannot be used for controlling the distribution of the infusion flow rate in arterial and venous pipes. Nor does the WO translation even disclose how the flow divider is

operated. Moreover, the WO translation fails to teach a control of the flow divider based on a monitoring at least one quantity correlated with the operating conditions of the filter, as recited in claim 22.

The WO translation further discloses a second embodiment in which a pre-infusion pump is controlled by means of a rotation encoder or other flow gauge in order to steer the pre-infusion flow applied by the pump at a preset value. The post-infusion pump is controlled by means of rotation encoders or other flow gauges in order to steer the post-infusion flow applied by the pump at a preset value. (WO translation at 12). In this second embodiment, however, Applicant contends that the pre-infusion and post-infusion pumps are controlled independently of each other. Therefore, the WO translation, fails to describe any control of the distribution of the infusion flow rate in said arterial (pre-infusion flow rate) and venous pipes (post-infusion flow rate) based on a monitoring of at least one quantity correlated with the operating conditions of the filter, as recited in claim 22. Thus, all limitations of claim 22 are not taught by the WO translation.

For at least the reasons above, Applicant requests that the Examiner withdraw the § 102(b) rejection of independent claim 22. Claims 23 and 43 depend from independent claim 22 and, therefore, include each of its features. Thus, claims 23 and 43 are allowable for at least the reasons discussed above in connection with claim 22. Accordingly, Applicant requests that the § 102(b) rejections of claims 23 and 43 based on the WO translation be withdrawn.

§ 103(a) Rejections

Claims 24, 31, 33 (independently), 35, 41 (independently), 42, 44, 45 (independently) and 46 were rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 98/50091 in view of U.S. Patent No. 5,762,805 to Truitt. In addition, claim 34 was rejected under 35 U.S.C. § 103(a) as being unpatentable over WO 98/50091 in view of Truitt, and further in view of WO 00/09182. Applicant respectfully traverses these rejections.

Claims 24 and 31 depend from claim 22 and, therefore, include each of its features. As discussed above, the WO translation fails to disclose or suggest all of the features of claim 22. Truitt fails to overcome the above-noted deficiencies of the WO translation. The Examiner contends that Truitt teaches an extracorporeal blood purification device “comprising pressure sensors for measuring...transmembrane pressure...a control unit...for monitoring pressure sensors...and for controlling a pump...[and a] control processor [that] ...transmits signals to a motor controller (128) to halt a pump (66) whenever pressure sensors (51, 53, 54, 84) signal an abnormal pressure value from predetermined stored pressure value and allows an operator to adjust the treatment steps to continue the treatment (see col. 17, line 31 – col. 18, line 27; col. 16, lines 10-40).” (Office Action at 3). Truitt, however, does not teach controlling the distribution of infusion flow rate in arterial and venous pipes from at least one parameter correlated with the operating conditions of the filter. Further, Truitt fails to teach controlling the distribution of flow rate, rather, it teaches to halt a pump when a transmembrane pressure value exceeds a threshold value, requiring an operator to adjust treatment steps to continue treatment. Therefore, Truitt fails to overcome the

above-noted deficiencies of the WO translation with respect to claims 22, 24, and 31.

Therefore, the teachings of the WO translation in view of Truitt would not render claim 24 or 31 obvious.

Claim 33 is an independent claim, and while of different scope, contains some of the same limitations as claim 22, including the presence of “an arterial pipe connected to an inlet of a blood compartment of a filter, the arterial pipe being also connected to a pre-dilution pipe of an infusion circuit; and a venous pipe connected to an outlet of the blood compartment, the venous pipe being also connected to a post-dilution pipe of said infusion circuit.” Claims 35 and 44 depend from claim 33 and include each of its features. Similar to the discussion of claims 22, 24, and 31 above, the WO translation fails to disclose or suggest all of the features of claim 33, and therefore claims 35 and 44, which depend from claim 33. Truitt fails to overcome the above-noted deficiencies of the WO translation, for at least the reasons discussed above regarding claims 22, 24, and 31. Additionally, Truitt does not teach a controller configured to regulate the distribution of infusion flow rates. Therefore, the teachings of the WO translation in view of Truitt would not render claim 33, 35, or 44 obvious.

Claim 41 is an independent claim, and while of different scope, contains some of the same limitations as claim 22, including the presence of “an arterial pipe connected to an inlet of a blood compartment of a filter, the arterial pipe being also connected to a pre-dilution pipe of an infusion circuit; and a venous pipe connected to an outlet of the blood compartment, the venous pipe being also connected to a post-dilution pipe of said infusion circuit.” Claims 42 and 45 depend from claim 41 and include each of its features. Similar to the discussion of claims 22, 24, 31, 33, 35, and 44 above, the WO

translation fails to disclose or suggest all of the features of claim 41, and therefore claims 42 and 45, which depend from claim 41. Truitt fails to overcome the above-noted deficiencies of the WO translation, for at least the reasons discussed above regarding claims 22, 24, 31, 33, 35, and 44. Therefore, the teachings of the WO translation in view of Truitt would not render claim 41, 42, or 45 obvious.

Claim 46 is an independent claim, and while of different scope, contains limitations similar to those of claim 33. Similar to the discussion of claims 22, 24, 31, 33, 35, 41, 42, 44, and 45 above, the WO translation fails to disclose or suggest all of the features of claim 46. Truitt fails to overcome the above-noted deficiencies of the WO translation, for at least the reasons discussed above regarding claims 22, 24, 31, 33, 35, 41, 42, 44, and 45. Therefore, the teachings of the WO translation in view of Truitt would not render claim 46 obvious.

Accordingly, Applicant submits that the § 103(a) rejections based on the WO translation in combination with Truitt should be withdrawn.

Claim 34 depends from claim 33 and, therefore, includes each of its features. As discussed above with respect to claim 33, the WO translation fails to disclose or suggest all of the features of claim 33, and therefore claim 34, which depends from claim 33. Truitt fails to overcome the above-noted deficiencies of the WO translation, for at least the reasons discussed above with respect to claims 22, 24, 31, and 33. Additionally, Truitt does not teach a controller configured to regulate the distribution of infusion flow rates. Nor does WO 00/09182 overcome the above-noted deficiencies of both the WO translation and Truitt. Therefore, the teachings of the WO translation in view of Truitt, and further in view of WO 00/09182, would not render claim 34 obvious.

Accordingly, Applicant submits that the § 103(a) rejections based on the WO
translation in combination with Truitt and WO 00/09182 should be withdrawn.

New Claims 50-59

Claims 50-59 are added by this Response. New claims 50-51 substantially correspond to previously presented claims 47, 48, and 49, which the Examiner indicated contain allowable subject matter. Cancelled claim 48 has been rewritten in independent form as new claim 50, and includes all of the limitations of base claim 46, from which cancelled claim 48 depended. Therefore, Applicant requests allowance of new claim 50 for at least these reasons.

Further, new independent claims 52, 57, 58, and 59 are allowable over the cited prior art. Neither the WO translation, nor Truitt, teaches a control unit configured to “regulate the flow rates in said pre-dilution (pre-infusion) and post-dilution (post-infusion) pipes [based on a monitoring of a] quantity” other than pre-infusion and post-infusion flow rates, as recited in claims 52 and 57. As noted above, Truitt merely teaches halting a pump whenever a pressure value exceeds a threshold value (col. 17, lines 31-49) and fails to teach regulation as recited in new independent claims 52 and 57. Moreover, neither the WO translation, nor Truitt, teaches controlling a quantity by varying “at least one of a flow rate in said pre-dilution pipe and a flow rate in said post-dilution pipe,” as recited by new independent claims 58, or controlling a quantity by regulating “at least one of an infusion flow rate in said pre-dilution pipe and an infusion flow rate in said post-dilution pipe,” as recited by new independent claim 59. Therefore, Applicant requests allowance of new claims 52, 57, 58, and 59 for at least these reasons.

Similarly, new independent claims 53 and 55 are allowable over the cited prior art. Neither the WO translation, nor Truitt, teaches a "control unit configured to control one or more quantities correlated with the operating conditions of the filter by varying a distribution of an infusion flow rate in said pre-dilution and post-dilution pipes," as recited in new claim 53. Further, neither reference teaches a "control unit configured to regulate a distribution of an infusion flow rate in said pre-dilution and post-dilution pipes based on monitoring of at least one quantity correlated with the operating conditions of the filter," as recited in new claim 55. Thus, Applicant requests allowance of new independent claims 53 and 55. Therefore, new dependent claims 54 and 56 are allowable due to their dependence from new independent claims 53 and 55.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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